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A PRELIMINARY REPORT ON THE SO-CALLED "BANNERSTONES"

By JOHN LEONARD BAER

FOR the past half century American archaeologists have been amazed at the beauty and puzzled over the use of certain problematical forms left by primitive men about their camp sites and buried with their dead in eastern North America. From Ontario to Florida, from Maine to the Mississippi Valley, have been found hundreds of beautifully wrought and highly polished pierced objects of stone somewhat resembling the drilled stone axes of the Old World. Here, however, these artifacts are usually of too soft a material and of too delicate workmanship to be weapons, tools, or implements of practical use. The carefully selected material, the elegant and symmetrical shape, and the high polish of these relics have led many to believe that their use was of a ceremonial nature.

Many fanciful names such as bannerstones, ceremonial axes, maces, butterfly stones, thunder-bird emblems, totems, whale-tail emblems, baton or sceptre heads, equipoise stones, and mesh gauges, have been applied to these mysterious relics. The name bannerstone, applied by Dr. C. C. Abbott, is the one most generally accepted because of its priority and because of the fact that most of the stones seem to have been shaped and drilled for mounting upon handles so as to be carried during ceremonies as standards or banners.

In support of this name, is the discovery of a cache of three bannerstones all mounted upon engraved stone handles about a foot in length. They were plowed up in a field near Knap of Reeds, Granville Co., N. C., in the year 1908. One of them (fig. 74, a) has been on exhibition in the North Carolina historical collection at Raleigh, N. C., for a number of years and was discovered by Mr. W. E. Myer who kindly brought the knowledge to the writer's attention. He described this interesting find as follows:

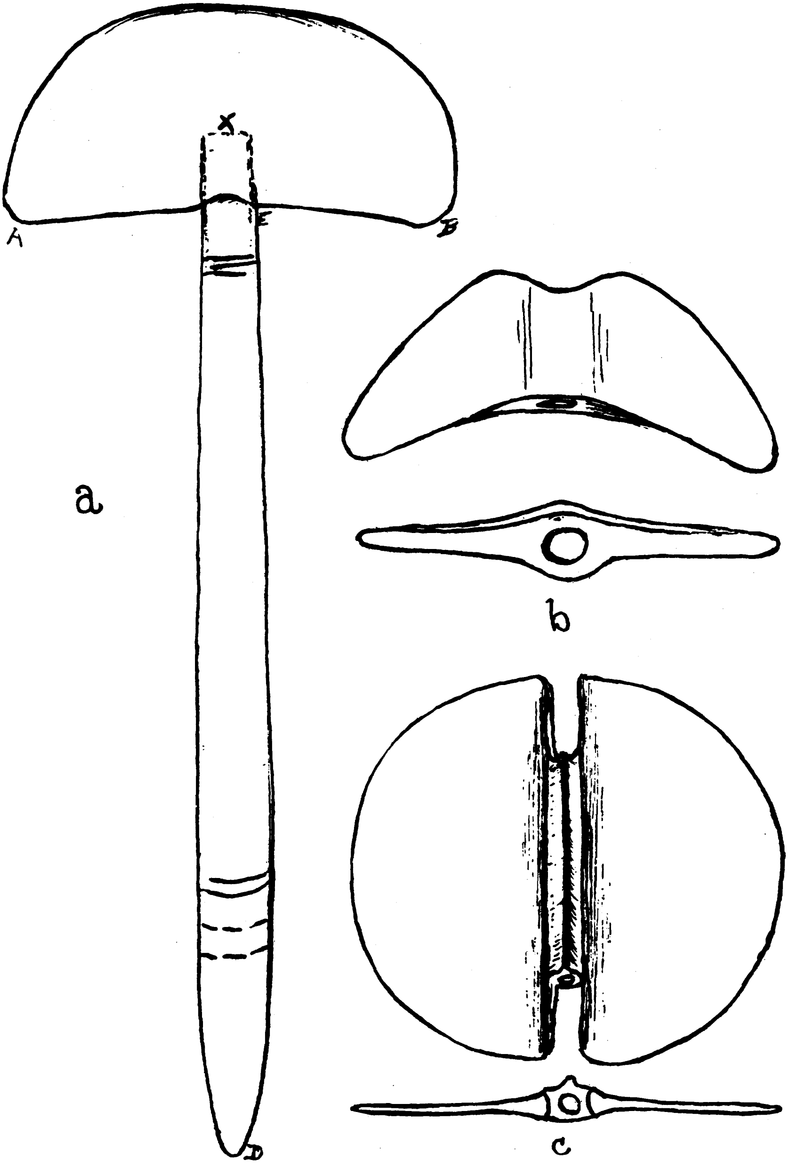

Fig. 74.—Bannerstones (one-half natural size) from: a, North Carolina; b, Pennsylvania; c, Florida.

There is one banner stone mounted on a stone staff . . . in the above collection. The material of both the banner stone and staff is a micaceous shale. The material is coarser in the banner stone than in staff. Staff about ⅞ inch in diameter at largest point, a to b about 4½ inches, e to d about 12 inches. The record attached to this banner stone is: " Three banner stones, all handles complete, plowed up in one spot, in a field on the farm of Mrs. Mary P. Waller, near Knap of Reeds, Granville Co., N. C. Not far away in [is ?] Indian burial mound. Lent by Mrs. Waller." The staff fits the hole in banner stone exactly. It extends to x in the hole. In fact, the staff and hole appear to have been made to fit perfectly by means of turning the staff in the hole and thus grinding to a more perfect fit. This grinding has some slightly modern appearance, as if people handling it had turned it somewhat in the hole. But the modern grinding is not sufficient to hide evidences of the old aboriginal grinding.

The above record has been substantiated in letters from Mrs. Mary P. Waller and Col. Fred A. Olds. Mrs. Waller states: " These banners were plowed up together. The handles were in two, but one handle was broken and apart from the head. One of the perfect stones and the broken one have been lost." Col. Olds adds to the above information, " the handle is well made and slightly ornamented with rings." The writer is indebted to him for a photograph of the specimen from which the illustration was drawn. This find strikes the writer as one of the most important bearing upon the use of the bannerstone.

While the material used for making bannerstones was usually slate, ribbon or colored slate preferred, many other materials were used such as shell, steatite, shale, serpentine, diabase, granite, quartzite, jasper, crystallized quartz, rose quartz, or any other stone which was capable of taking on a high polish and reflecting brilliant or pleasing colors. Mr. Clarence B. Moore has in his remarkable collection at the Academy of Natural Sciences, Philadelphia, a beautiful bipennate specimen made of shell (*Strombus gigas*) which was found in Volusia Co., Florida. In the same collection is a butterfly-shaped piece made of crystallized quartz, found near Red River. One wing has been broken off near the perforation and the fractured surface carefully polished, showing the esteem with which even broken bannerstones were regarded. A similar unfinished specimen of crystallized quartz from Louisiana is in the collection of the U. S. National

Museum. One wing of it was broken in the making and the hole therefore, was never drilled.

The aboriginal artisan showed great skill in selecting the stone best suited for his particular purpose. As stated above, a large percentage of bannerstones was made of slate, green or banded being preferred to the common gray variety. In choosing ribbon slate, the bannerstone maker showed excellent taste in securing, when possible, blocks in which the bands ran parallel with the cleavage. When these blocks were pecked into shape and polished, the ribbons crossing the gracefully curved wings at different angles made beautifully matched patterns. In addition to its pleasing effect, the ease with which it could be worked was undoubtedly a factor in the choice of slate. While water-worn pebbles were made use of when available, slate, serpentine, and diabase were to the writer's knowledge quarried particularly for the manufacture of bannerstones. Blocks of slate were split into the required shape for transportation to the camp site where they were fashioned with flint hammer stones, scrapers, drills, and polishing stones into beautiful works of art.

Bannerstones are usually of the most artistic form and finish, showing much labor and skill in their manufacture. No other artifacts of the aborigines of eastern North America are more elaborate or more beautiful. The most common form of these perforated, winged objects is that having long, thin, tapering, symmetrical wings, diverging from a mid-rib, through which a cylindrical hole has been drilled longitudinally. The measurements in centimeters of an average bipennate bannerstone are as follows: spread of wings, 14.5; thickness of wings, 1.2; width of wings, 5.15; length of centrum, 5.15; width of centrum, 2.2; diameter of bore, 1.55. Variations of this type are those in which the centrum is longer than the width of the wings, those in which the centrum is shorter than the width of the wings, those in which the wings are longer and narrower and curved, those in which the extremities of the long, curved wings are knobbed, those in which the wings are shorter and broader, those in which the wings are thicker and heavier, those in which the wings are oval, and those in which the outer extremities of the wings are parallel.

Certain names have been applied to these various forms such as bipennate forms, butterfly forms, lünate forms, knobbed forms, crescent forms, double crescentic forms, reel forms, oval forms, battle-axe forms, geniculate forms.

Lack of space and the expense of illustration forbid the use of many drawings to illustrate the various forms of bannerstones. One remarkable specimen from Florida recently acquired by the U. S. National Museum is especially deserving of notice and is illustrated in figure 74, c. It is nearly circular in shape and displays a higher degree of workmanship than any other specimen in the Museum collection. The length of the centrum is only about one-half the width of the wings and has a spine running the length of it on one side. The measurements of the stone in centimeters are as follows: spread of wings, 14.2; width of wings, 13; thickness of wings, .7 to .3; length of centrum, 6.8; thickness of centrum, 1.9; thickness of rear wall of centrum, .2; thickness of front wall of centrum, .4; thickness of spine of centrum, .2; diameter of bore, 1.1. This beautiful and fragile bannerstone could have survived no other than ornamental or ceremonial use.

Bannerstones are rare as compared with the hundreds of thousands of arrowheads, thousands of knives, axes, celts, and hundreds of pipes, yet they are much more abundant than our early archaeologists supposed. Specimens illustrated by the numerous writers upon the subject, some of which are herein figured, give an idea of the general distribution of the various forms unearthed in the eastern part of North America. Mr. Moorehead, in his *Stone Ornaments of the American Indian,* has collected a store of information in regard to the distribution of problematical forms. Many small collections have escaped notice, however, and we may expect many beautiful specimens yet to come to light. The writer recently visited a small town where he saw a number of fine bannerstones which have never been described or listed.

Many perfect bannerstones have been found in graves, but for every perfect one picked up about abandoned camp sites, a dozen broken ones have been found. Many of those broken in prehistoric times have been drilled at right angles to the original perforation as if intended to be worn as pendants. Bannerstones were so cherished and considered of such importance that scarcely ever was a broken piece discarded by the fortunate possessor. Possibly they were carried in the medicine bag as "good medicine."

Judging from the bannerstones illustrated by the numerous writers upon the subject and from specimens exhibited in a number of museums and private collections, we observe that the bipennate form prevails throughout the northeast section of the bannerstone area; oval forms and reel forms throughout the southeast; reel forms, butterfly forms, crescent forms, double crescentic forms, and geniculate forms throughout the mound area; butterfly forms, knobbed crescentic forms, battle-axe forms, double crescentic forms, and geniculate forms in the northwest. Of course there is much overlapping of areas and unusual forms are occasionally found in almost every locality. Whether this is due to a system of trade among the Indians, or whether shapes were copied from those seen when on the trail or the warpath, is an interesting question.

The finding of characteristic forms in widely separated areas is also interesting and may assist in tracing prehistoric movements of the Indians. A remarkable instance of this kind is the finding in Florida of certain battle axe forms typical of Wisconsin.

Archaeologists have spent much time trying to figure out the method and sequence in the manufacture of bannerstones. Mr. C. C. Jones, Mr. David Boyle, Mr. Joseph D. McGuire, Mr. Charles E. Brown, and Mr. Warren K. Moorehead have all pointed out interesting stages in the manufacture of these mysterious artifacts. In speaking of an unfinished specimen, Mr. Boyle said, "Instructive as are all unfinished specimens, they are particularly so when they possess traces of the various steps taken to bring them into form." Even more instructive is a series of unfinished specimens from the same workshop, made of the same material, and possibly wrought by the same artisan. Such it has been the writer's good fortune to discover.

On Mt. Johnson Island in the Susquehanna River about a mile above Peach Bottom, Lancaster Co., Pa., over three hundred unfinished and broken bannerstones of slate have been found. These rejects, in series, show all stages of development from the split blocks brought from the nearby quarry to the finished artifact. A number of such series have been made from the large quantity of pieces. The specimens herein illustrated have been accepted by the U. S. National Museum for display in the Pennsylvania collection. An interesting feature of the situation is that the ledge of slate whence the blocks must have come crosses the river only a few feet below the island. The fact that the exposed ledges on either side of the river are below the island convinces us that any blocks of slate found on the island must have been taken there for a purpose, and could not have been deposited by natural agencies.

Diligent search has been made about the outcroppings of slate in both Lancaster and York Counties for indications of primitive quarries. The lack of proof of work having been done at these more distant outcroppings leads one to assume that the bannerstone-maker secured his material from the nearby outcroppings in the hills on either side of the river, although all evidences have been obliterated by the white man in producing the famous Peach Bottom roofing slate.

One of Mr. Moorehead's party on the Susquehanna survey gathered information concerning this Indian workshop on Mt. Johnson Island from the writer, who also furnished him with a number of unfinished specimens. This account as published in *Ornaments of the American Indian* has been badly garbled. It reads thus: " Fishing Creek, *Columbia* Co., Pennsylvania,—On *Mountain* Island there seems to have been a long-settled Indian village in which quantities of relics have been obtained. The spot is most interesting because Indians seem to have gone to the mainland to the east of the island and there obtained slate which they brought back to the island and manufactured into ceremonial objects such as bannerstones and gorgets. The party found a large number of fragments ranging from plain slabs of slate to bannerstones in all stages of completion. Some examples of the unfinished objects, although broken, were found. It is a matter of common knowledge to the farmers in this neighborhood that these objects are abundant on Mountain Island." The island has from early historic times been known as *Mt. Johnson*

Island. Fishing Creek is about four miles up the river from Mt. Johnson Island, and, like the island, is in *Lancaster* Co., Pennsylvania, instead of Columbia Co., which is more than a hundred miles up the Susquehanna.

The following observations on the manufacture of bannerstones have been based upon specimens of slate from the workshop on Mt. Johnson Island. Similar specimens of serpentine and diabase from other sources are being reserved for further study to illustrate a future report upon the subject.

A large number of split slabs of slate an inch or more in thickness and similar to figure 75, a, have been found on the island. Some show slight evidences of the use of stone hammers in smoothing up the ends, but most of them are rough, parallelogram-shaped blocks of slate just as they were taken from the quarry. These slabs carried to the island by the Indians must not be confused with larger blocks of slate carried there to protect the shad fishing battery against the wearing away of the lower end of the island.

Figure 75, b, shows the plan and edge views of a roughly-shaped block from which about one-third has been broken. The block shows the use of the stone hammer in shaping the edges, but no work has been done on the sides.

Figure 75, c, shows the side and edge views of a roughly-shaped block from which about one-fourth has been broken. The edges have been shaped as in *b* with the stone hammer. The wings are a little better defined than in the preceding specimen. The section to be left the original thickness for the centrum is marked off with a stone knife or other sharp stone. Only a very small amount of pecking had been done before the end was broken off and the blank spoiled for making a symmetrical bannerstone. This specimen is very interesting in that it illustrates the three stages of manufacture on the one specimen. It also suggests a division of labor. May not the artisan have marked out the design for an assistant, who, by careless pecking, broke the specimen?

Figure 75, d, presents the side and edge views of a partly pecked bannerstone with one wing broken off. This specimen shows the result of pecking with an angular flint pecking-hammer such as those

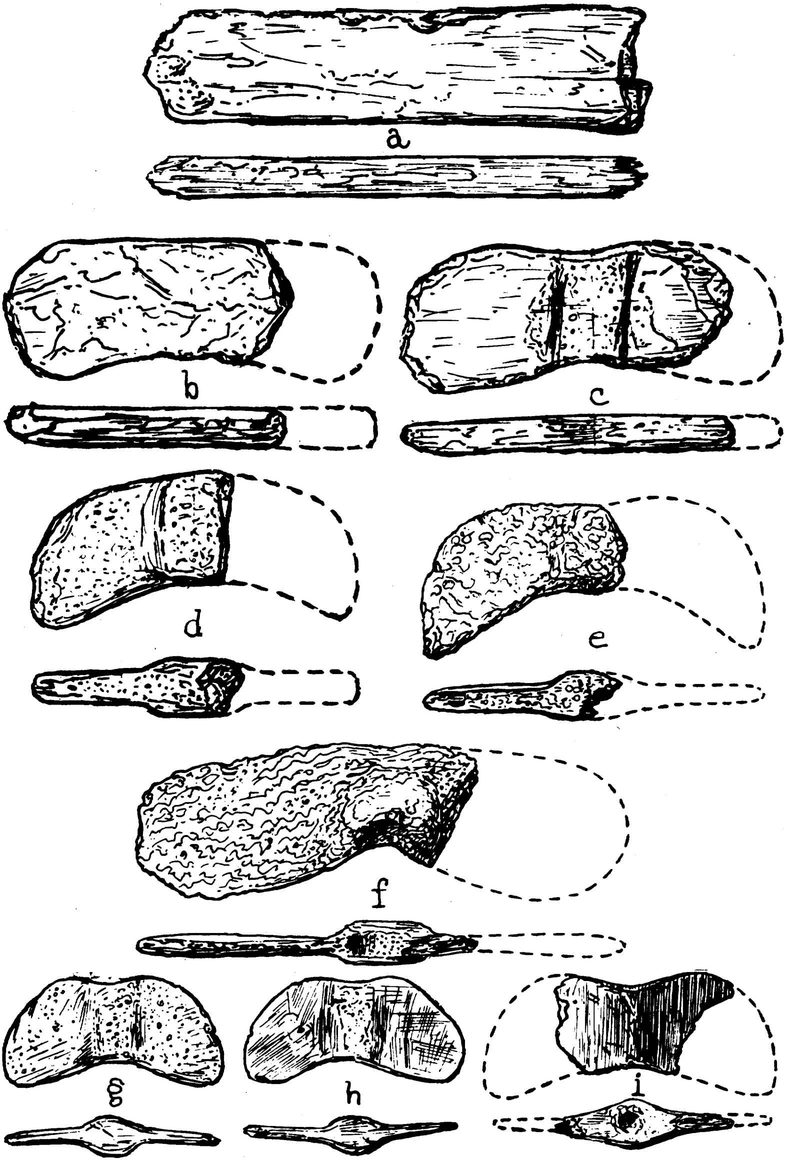

Fig. 75.—Evolution of the Bannerstone. Plan and side views of the specimens of slate collected on Mt. Johnson Island, Pa., by Mr. John L. Baer, showing stages of manufacture from the rough blank to the finished artifact: a, the rough blank; b, roughly-shaped block; c, block marked for pecking; d, block partly pecked; e, block showing advanced pecking; f, block showing pecking nearly completed; g, block showing pecking completed; h, block showing effect of scraping; i, block showing scraping completed and hole started. Scale about one-fourth natural size.

illustrated in figure 76, e, e′. Quantities of these flint pecking-hammers are found on that part of the island where the unfinished bannerstones are most abundant. Occasionally a jasper or agate pecking-hammer is found.

Figure 75, e, presents the side and edge views of half of a bannerstone showing more advanced pecking. The edge view shows that the wings had been reduced nearly to their required thinness, while the centrum maintained its original thickness. The great number found broken at this stage show with what great care the artisan must have had to perform the pecking. Small indentations were made over the surface of the wings with the sharp projections on the pecking-hammer. Repetitions of this process gradually reduced the wings to the desired thinness. Had the blows been struck upon any surface except that parallel with the cleavage, the slate would have split.

Figure 75, f, presents the side and edge views of a much larger bannerstone, with long expanding wings and a very short centrum. Here the pecking was about completed when an accident broke off nearly half of one wing. This represents an unusually large size for this section of the country. In the U. S. National Museum collection are some very large unfinished specimens from South Carolina and Georgia. These, however, are not made of slate.

Figure 75, g, and figure 75, h, present another very interesting specimen since it shows the result of both pecking and scraping. Figure 75, g, shows the pecking marks on one side, and figure 75, h, shows the scratches on the reverse, evidently made by a flint scraper. While numerous flint scrapers have been found on the island, none were considered sufficiently close to the bannerstone rejects to be identified with the workshop.

Figure 75, i, presents side and edge views of the centrum and parts of gracefully sloping wings showing coarse and finer scrapings and the perforation just started. The finer scraping on one end may possibly be the beginning of the polishing. In a number of specimens the hole has been started before the scraping was finished as if to shape the centrum about the proposed perforation. No holes, however, have been drilled farther than just sufficient to locate them in any of the numerous specimens of slate examined.

Figure 76, a, presents side and edge views of a bannerstone with a part of one wing broken off showing gracefully sloping wings and a well-developed centrum in which the hole has been started with a hollow drill. In harder stone the core is frequently much longer. The same method of drilling was practiced by the aboriginal Europeans in making the perforations in their stone axes.

Figure 76, b, presents the side and edge views of the centrum and parts of the wings of a bannerstone about two-thirds drilled. A portion of one side of the centrum having been slabbed off reveals the core left by the hollow drill. Markings in the cylinder perforations in many specimens indicate the use of sand, and possibly water, in connection with the hollow drill. In all the specimens examined the holes have been drilled parallel with the split of the slate. This seems to be contrary to Mr. Warren K. Moorehead's findings. In his *Stone Ornaments of the American Indian,* on pages 110–111, he states:

> Fifth, he made his perforations at right angles to the grain or bands of the stone, which should be noted. The exceptions are rare. If he drilled with the grain, the stone would chip and before he finished the object it might break. Sixth, he drilled the specimen before it was completed, knowing that the drilling was a dangerous process at best, and if he did not prize the specimen very highly, he would not have cared when he drilled it.

It is true that drilling at right angles to the grain or bands of slate would have been easier, but that would have necessitated pecking against the cleavage of the slate. Anyone familiar with the methods used in working slate knows that it takes very little hammering against the cleavage to split the slate. The many bannerstones with beautifully matched patterns are a further proof that the holes were drilled with and not perpendicular to the split of the slate. Bands or ribbons do not always run parallel with the cleavage of slate. In this case there are beautiful markings but no matched designs.

Mr. Moorehead pictures a number of specimens showing the method of boring with a hollow drill. Mr. C. C. Jones, the earliest American writer upon the subject of "Perforated Axes," in his *Antiquities of the Southern Indians,* comments upon the drilling process as follows:

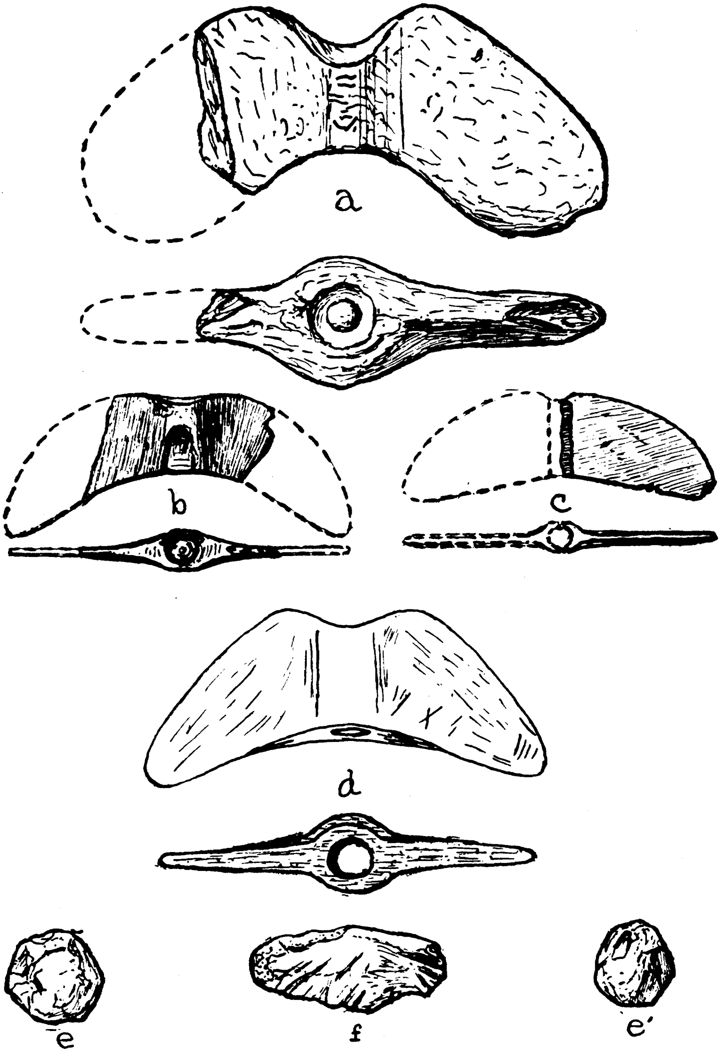

FIG. 76.—EVOLUTION OF THE BANNERSTONE (continued). a, plan and side views of specimen showing hollow drill core; b, plan and side views showing half-completed hole; c, plan and side views showing wing of polished bannerstone; d, plan and side views of finished bannerstone; e, e′, flint pecking hammers; f, sandstone polishing implement. Scale about one-quarter natural size.

Of several specimens now on the desk, one is entirely finished and polished, but lacks the handle hole. A second, pecked into the desired shape, but not yet ground, indicates on the nether side the commencement of the drilling process. Upon careful examination of a third, it will be perceived that the drill-hole has been completed only one-half the required distance. A core or nipple, nearly a quarter of an inch in length, appears at the bottom, clearly showing that a hollow reed, aided by sharp sand and water, was the instrument by means of which the perforation was compassed.

Mr. Charles Rau says

> It is very likely that the hollow drills of the aborigines of North America were pieces of that hard and tough cane (*Arundinaria macrosperma,* Michaux) which grows abundantly in the southern part of the United States, mostly along the banks of large rivers, and forms at present an article of trade, being used for pipe-stems and fishing rods. A piece of this cane, from which the knotty joints have been cut, forms a regular hollow cylinder sufficiently strong to serve as a drill. I learned from Dr. Davis that many years ago a stone pipe with an unfinished hollow, partly filled with vegetable matter, was sent to the late Samuel P. Morton of Philadelphia. When subjected to a microscopical examination the vegetable substance exhibited the fibrous structure of cane, and thus appeared to be a remnant of a drill broken off in the bore.

Figure 76, c, presents plan and edge views of half a polished bannerstone. This specimen is a fair sample of the many wings found about the workshop and elsewhere on the island. Many of them have doubtless been broken by the agency of frost after being plowed up and exposed near the surface, while some may have been broken even during the polishing process. In most cases the polishing seems to have been finished at least after the hole had been completed. A number of abrading stones have been found about the workshop. The one represented in figure 76, f, shows numerous grooves and angles and is of excellent grit.

Figure 76, d, shows a well made and beautifully polished specimen. While of the same general shape as most of the reject pieces found about the workshop, it is much smaller than the average. The smallest unfinished piece found here is exactly three inches in length and three-fourths of an inch in width.

In the study of these slate rejects, certain conclusions have been reached. First, the slate was split into blocks of suitable dimension and not made into "turtle backs" for transportation. Second, the blocks were carefully marked out with the design of the pattern before the pecking process began. Third, the holes may have been drilled in some rare cases even before the pecking was finished, but the usual procedure was to indicate the hole so as to shape the centrum symmetrically about it and finish the scraping and grinding before drilling the hole to any considerable depth. Fourth, just as the early archaeologists were deceived about the rarity of bannerstones, so did they overestimate the time and patience necessary to fashion these beautiful artifacts. In support of this conclusion, Mr. Joseph D. McGuire has on exhibition in the National Museum a catlinite bannerstone made by himself, using the same primitive tools with which the prehistoric artifacts were made. The time required for making the specimen is itemized as follows: pecking, 3 hours; scraping, 1 hour; rubbing and polishing, 3 hours; drilling, 3½ hours. What were ten and a half hours to primitive man?

The mystery surrounding the origin, significance, and use of these so-called bannerstones makes their study all the more interesting. No record has appeared of early explorers having seen such objects among the Indians of post-Columbian times. No reference to prehistoric artifacts which can be identified as bannerstones has been discovered in Indian cosmology, mythology, or folklore. Thus a number of theories have arisen as to the possible use of these problematical forms. While a few still claim that they were specialized implements, most archaeologists agree that they must have been for ceremonial purposes. Many of the forms, and especially those made of fragile material such as steatite, slate, shell, etc., would not have served for any rough or even mechanical use. Neither would mere implements have been so symmetrically wrought or so highly polished. The specimen with a stone handle described at the beginning of this article shows no evidences of having been used as a weapon. Nor have the wings of this or any other bannerstone within the writer's knowledge been reduced to cutting edges. The polished handle with incised rings surely places this specimen in the ceremonial class. The fact that a bannerstone as crude as this one should have been used for ceremonial purposes should bespeak a high and important place in religious festivals for the more beautiful and more delicately wrought specimens. Space does not permit entering into the numerous theories as to the origin and significance of the bannerstone. Until more material is available, more argument would be mere speculation, but whatever the various types of bannerstones may have symbolized, it is quite evident that they were to be mounted upon handles for ceremonial use.

DELTA, PA.